

Rodent infestations in Bangladesh and India, February, 2008**Bangladesh**

Farmers and residents in the remote hilly Chittagong region of southeast Bangladesh are hit by large infestations of rats that destroyed their crops. It is reported that the pest has affected 150,000 people in three of the districts. Residents of Chittagong who have been significantly affected say the rats eat everything that is green and are bigger than normal. Many people have resorted to eating roots and the residents of the region will likely be pre-disposed to extreme food insecurity and perhaps, forced looking outwards in search of food and coping mechanisms. A senior official says the rat invasion has turned hilly plantation areas into scorched earth. Aid workers said The government, already struggling to help millions of victims of last year's floods and a devastating cyclone, has sent food aid to 15,000 people affected by rat infestations http://australianetwork.com/news/stories/asiapacific_stories_2158958.htm.

There is serious concern that the rat populations will increase as the bamboo trees continue blossoming. The outbreaks can possibly last several years before the population declines. Here, the most common species of rats in field crops and those associated with bamboo blossoming are *Rattus rattus* or roof rat and *Bandicota benegalensis*. *Mus spp.* and *B. indica* are also found near pods, roadsides, and riverbanks in the vicinity of crop fields. The last time a plague of rat of this magnitude hit Bangladesh was in 1958 <http://www.dailyindia.com/show/214507.php/Bangladesh-battles-rat-infestation>; http://news.bbc.co.uk/1/hi/world/south_asia/7234213.stm



(photo: [Wikimedia Commons](#)). *R. rattus* (roof rat, house rat or black rat)

India:

Rodent infestations were also reported in January in the neighboring State of Mizoram in northeastern India where a similar situation has attracted large numbers of rats. It was reported that the rats have already caused severe crop damage in 113,100 ha and impacted 84,018 families in this State alone. **Note:** *In addition to consuming, destroying or contaminating food, feed, and produce, or damaging properties, structures, etc., some species of rats are also notorious vectors of deadly diseases, such as plagues (bubonic plague), Hemorrhagic fever, Hantavirus, Lassar Fever, Arenavirus, Salmonella, Tularemia, etc..* **End note.**

The State of Mizoram is soliciting food assistance, income generating activities and agricultural input - seeds and fertilizers for the families affected by the pest. In the recent past, authorities pledged up to 2 Rupees/rat tail to get rid of the rats, but so far, this have not been able to abate the problem (from Dominic/Mizoram to UNDP, India; et al.).

Note: *The gregarious or simultaneous flowering of bamboo is a phenomenon that occurs once every 3 to 4 decades or even longer during the entire lifetime of the bamboo tree. This is followed by a rapid growth in the rat population because eating bamboo flowers enhances estrogen (a sex hormone) secretion in rodents, causing early puberty and elevated sexual activity, a kind of " aphrodisiac lure". Healthy rodents, feasting on bamboo blossoms, can breed up to eight times a year, far more than normal.*

The bamboo flowers also provide abundant food supply to the rodents, but when they dry up, the rodents begin attacking crops and granaries. This situation could trigger a cascade of severe food insecurity as thousands of rodents start feeding on crops and green vegetations and invading more granaries. In addition, gregarious flowering of bamboos results in large-scale deaths of the trees and subsequently leads to ecological disaster as it will leave the ground bare and the soil exposed to wind and water erosion as well as causing animals that thrive on bamboo plants perish due to lack of food. **End note.**

Control Interventions

Control interventions often include chemicals - rodenticides (e.g., anti-coagulants and fumigants...), traps (e.g., ordinary mouse traps, pitfall traps/water traps with a bucket half-filled with water, a drop or two of detergent added and the inner walls covered with a slippery material are placed in holes dug in crop fields), search-and-destroy methods, releasing predators (e.g., cats), as well as removing weeds, clearing and burning piles of debris and refuses, etc. However, rat's prolific breeding, short gestation period, ability to disappear in small and narrow cracks, gaps, slits and crevices as well as the nocturnal behavior of this pest often undermine these efforts.

The ability to spot rats in tiny spaces or crevices as little as one inch or in rat holes is a challenge as their body frame allows them to slide through a very narrow crack where no other animal with a collar bone could manage. This is further complicated by the nocturnal behavior of the rats that gives them the advantage of feasting at night and causing severe damage. Spotty control efforts often worsen the problem by allowing them to expand their invasion radius by breeding in areas where control interventions have not been launched.

The most effective and perhaps the safest and practical means of preventing and controlling rat infestations would be to launch community-based campaigns which will involve removing and burning debris and refuses in and around crop fields, granaries, residential areas, barns, pens, and other places where food and animal feed may be the main attraction for this pest.

Possible actions

To address the rodent pest problems, first and foremost, affected areas must be identified and assessed and the magnitude of damage and crop/produce losses to the pest must be determined taking into consideration the ability of the households to sustain or absorb the losses to an acceptable degree, i.e., households can withstand the shock or losses with some level of resilience. If such information is readily available from recent studies, it can be reviewed for actionable items.

Technicians from crop protection offices and other relevant entities, including public health and environmental offices should be involved in awareness raising and training of affected communities and farmers. All stakeholders, including non-governmental aid workers should work closely with technical staff, local authorities and affected communities in both awareness raising and preventive and curative interventions, including training on how to accurately identify and report the type, nature and the extent of infestations, areas infested, crops/produce damaged or threatened, habitat management, plant health and crop hygiene (e.g., weeding, collecting and destroying debris and refuses from residential areas, barns, pens, around crop fields and water ways, making sure that items that would be food sources for the rodents are not left within their reach...) following good agricultural practices as well as mobilizing both human and materials resources where they are need the most.

Crop protection staff and community contact persons or village farmers' designates should keep detailed account of the rodent infestations, damage/losses and activities under taken to abate the problem and share these reports with all partners and stakeholders, including local, regional, and international authorities as well as relevant regional and international entities on a regular basis.

In areas where the problem is rampant, affected households and communities must be identified and provided with coping mechanisms, including substituting their lost assets, such as seeds, planting materials, income generating activities and other forms of assessment-based assistance.

As always, AELGA will continue monitoring the situation and advise and issue updates.

For more information, please, contact: [Yeneneh T. Belayneh, Ph.D.;](mailto:ybelayneh@ofda.gov)
ybelayneh@ofda.gov